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EXAMINER

LAZARO, DAVID R

ART UNIT	PAPER NUMBER
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2155

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/671,905

Applicant(s)

HASHIMOTO ET AL.

Examiner

David Lazaro

Art Unit

2155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-14 and 16-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-14 and 16-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the amendment filed 11/21/2007.
2. Claims 1, 2, 9, 12, 13 and 19 were amended.
3. Claims 4 and 15 are canceled.
4. Claims 1-3, 5-14 and 16-23 are pending in this office action.

Response to Amendment

5. The objections to claims 2, 12, 13 and 19 for informalities are withdrawn based on applicant's amendment.
6. The rejection of claims 1, 4, 9, 12 and 19 under 35 USC 112, second paragraph, are withdrawn based on applicant's amendments.
7. Applicant's arguments with respect to claims 1-3 and 5-11 have been considered but are moot in view of the new ground(s) of rejection.
8. Applicant's arguments with respect to claims 12-14 and 16-23 have been fully considered but they are not persuasive. See Response to Arguments.
9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.**

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 1, 5, 9 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 7,089,304 by Graham (Graham).

12. With respect to claims 1 and 11, Graham teaches a packet transmission system comprising:

packet identification information addition means for adding packet identification information to a packet to be transmitted (Col. 2 lines 35-63: sequence number is added to identify the packet); and

transmission means for transmitting said packet that is allocated said packet identification information a plurality of times even if the packet transmission system does not receive a retransmission request from a reception side (Col. 2 lines 35-63: redundant packets sent without a retransmit request),

wherein said transmission means transmits said packet that is allocated said packet identification information and a redundant packet which is a duplicate of said packet that is allocated said packet identification information (Col. 2 lines 35-63: redundant packets are duplicates), and

wherein said packet and said redundant packet transmitted with the same packet identification information contains an identical sequence number (Col. 2 lines 35-63: redundant packets have the same sequence number as this is how duplicates are identified by the receiving side).

13. With respect to claim 5, Graham teaches said packet identification information addition means adds one said packet identification information to each of a plurality of packets to be transmitted (Col. 2 lines 35-63: sequence number is added to identify the packet).

14. With respect to claim 9, Graham teaches determination means for determining whether information equal in type to the packet identification information to be added by the packet identification information addition means is already added to said packet to be transmitted, wherein if a determination result of said determination means is positive, said packet to be transmitted is transmitted while bypassing said packet identification information addition means and said transmission means (Col. 2 lines 35-63: sequence information is not added twice).

15. Claims 12 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,574,770 by Daudelin et al. (Daudelin).

16. With respect to claim 12, Daudelin teaches a packet reception system comprising:

reception means capable of receiving duplicate packets that are allocated packet identification information once or a plurality of times without a retransmission request

(Col. 2 lines 48 - Col. 3 line 4 and Col. 6 lines 46-64: endpoint can receive duplicate packets based on retransmissions that are not requested - sender timeout with retry);

determination means for determining whether the reception means receives duplicate packets allocated said packet identification information the plurality of times or not (Col. 2 lines 48 - Col. 3 line 4 and Col. 5 lines 30-37 : receiver can determine duplicates based on packet identification information); and

discard means for leaving only one of the duplicate packets and discarding the other packets if a determination result of said determination means is positive (Col. 2 lines 48 - Col. 3 line 4 and Col. 5 lines 30-37: discards duplicates if packet already received),

wherein each of said duplicate packets includes a plurality of higher level packets (Col. 4 lines 1-8 and Col. 6 lines 1-17: packets contain higher level packets - higher link levels/layers).

17. With respect to claim 14, Daudelin further teaches each of said packets is any one of a multicast packet and a broadcast packet (Col. 7 lines 64 - Col. 8 line 10).

18. With respect to claim 18, Daudelin further teaches response means for transmitting an acknowledgment to a sender when said packets are received (Col. 8 lines 57-67).

19. With respect to claim 21, Daudelin further teaches a wired LAN terminal (Col. 3 lines 17-49)

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graham in view of U.S. Patent 6,032,197 by Birdwell et al. (Birdwell).

22. With respect to claim 2, Graham teaches all the limitations of claim 1, but does not explicitly disclose compression means for deleting a header of a third OSI layer and a header of a fourth OSI layer of the packet to be transmitted, and making data of a fifth OSI layer carried on a second OSI layer before adding the packet identification information to the packet to be transmitted.

Birdwell teaches a packet header compression technique that allows one to selectively compress packet headers by removing select headers from the packet (Col. 8 lines 57-67). This can include headers from the third OSI layer and the fourth OSI layer (In Birdwell: Col. 5 lines 21-30: IP (third) and UDP (fourth) headers for example).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the system disclosed by Graham and modify it as indicated by Birdwell such that it further comprises means for deleting a header of a third OSI layer and a header of a fourth OSI layer of the packet to be transmitted, and making data of a fifth OSI layer carried on a second OSI layer before adding the packet

identification information to the packet to be transmitted. One would be motivated to have this, as it is desirable to improve transmission efficiency through packet compression techniques, including removing particular portions of the packet (In Birdwell: Col. 1 lines 32-43).

23. Claims 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graham in view of U.S. Patent 6,112,323 by Meizlik et al. (Meizlik).

24. With respect to claim 3, while Graham refers to a communication protocol that does not guarantee deliver, Graham does not explicitly disclose the packets are any one of a multicast packet and a broadcast packet.

Meizlik teaches that UDP multicast is a communication protocol that does not guarantee delivery of the multicast packets (Col. 7 lines 35-62).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to take Graham and modify it such that said packet is any one of a multicast packet and a broadcast packet. One would be motivated to have this as Graham is directed towards improving the reliability of packet delivery in communication protocols that do not guarantee deliver (In graham Col. 2 lines 42-46).

25. With respect to claim 6, Graham does not explicitly teach reception means for receiving information on a simultaneous packet loss frequency at the reception side per certain period, wherein said transmission means changes a transmission parameter based on said information on the simultaneous packet loss frequency.

Meizlik teaches reception means for receiving information on a simultaneous packet loss frequency at the reception side per certain period, wherein said transmission means changes a transmission parameter based on said information on the simultaneous packet loss frequency (Col. 15 lines 5-26: pacing algorithm monitors packet loss and adjust transmission rates accordingly).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to take Graham and modify it such that it further comprises reception means for receiving information on a simultaneous packet loss frequency at the reception side per certain period, wherein said transmission means changes a transmission parameter based on said information on the simultaneous packet loss frequency. One would be motivated to have this as it provides the benefit of rapid transmission with as little packet loss as possible (In Meizlik Col. 15 lines 27-29).

26. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graham in view of U.S. patent 6,188,691 by Barkai et al. (Barkai).

With respect to claim 7, Graham does not explicitly disclose said transmission means transmits said packet allocated said packet identification information, with a MAC (Media Access Control) address common to a plurality of reception devices set as a destination address. Barkai teaches transmission of data can be accomplished through the use of a MAC address common to a plurality of reception devices (In Barkai: Col. 4 lines 5-59, particularly lines 12-22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made, to take the system disclosed by Graham and modify it as indicated by Barkai such that said transmission means transmits said packet allocated said packet identification information, with a MAC (Media Access Control) address common to a plurality of reception devices set as a destination address. One would be motivated to have this, as it is desirable to be able to associate particular traffic with a common MAC address for network efficiency and easy administration (In Barkai: Col. 2 lines 4-34 and lines 62-67).

27. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graham in view of Barkai and in further view of Meizlik.

28. With respect to claim 8, Graham in view of Barkai does not explicitly disclose means for retransmitting said packet if the packet transmission system does not receive an acknowledgement of transmission of said packet.

Meizlik teaches means for retransmitting said packet if the packet transmission system does not receive an acknowledgement of transmission of said packet (Col. 28 lines 49-64: unacknowledged packets are retransmitted).

It would have been obvious to one of ordinary skill in the art to use the means for retransmitting as taught by Meizlik for retransmitting the packets delivered in Graham in view of Barkai. Using the known technique of retransmitting packets if the transmission system does not receive an acknowledgement for reliably sending packets would have been obvious to one of ordinary skill.

29. Claims 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graham in view of U.S. Patent 6,577,609 by Sharony (Sharony).

30. With respect to claim 10, Graham teaches at least all the limitations of claims 1, 1, 5, and further teaches that the invention can be practiced in networking environments (In Graham: Col. 4 lines 61-67).

Graham does not explicitly disclose the network environment of a wireless LAN base station. Sharony teaches that a common environment for multicast data transmissions includes a wireless LAN including a base station or access point (In Sharony: Abstract and Col. 1 lines 18-34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the system disclosed by Graham and modify it as indicated by Sharony such that a wireless LAN base station comprises the packet transmission system. One would be motivated to have this, as the advantages of Graham's system apply to networking environments (In Graham: Col. 4 lines 61-67) and would therefore extend to a wireless LAN environment including a base station.

31. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,574,770 by Daudelin et al. (Daudelin) in view of U.S. Patent 6,032,197 by Birdwell et al. (Birdwell).

32. With respect to claim 13, Daudelin teaches all the limitations of claim 1, but does not explicitly disclose each of said packets received has a structure in which data of a

fifth OSI (Open Systems Interconnection) layer is directly carried on a second OSI layer, and the packet reception system further comprises restoration means for restoring a header of a third OSI layer and a header of a fourth OSI layer of each of said packets received.

Birdwell teaches a packet header compression technique that allows one to selective compress packet headers by removing select headers from the packet (Col. 8 lines 57-67). This can include headers from the third OSI layer and the fourth OSI layer (In Birdwell: Col. 5 lines 21-30: IP (third) and UDP (fourth) headers for example). The headers will be restored on the receiving end (Col. 9 lines 18-24).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the system disclosed by Daudelin and modify it as indicated by Birdwell such that it further comprises each of said packets received has a structure in which data of a fifth OSI layer is directly carried on a second OSI layer, and the packet reception system further comprises restoration means for restoring a header of a third OSI layer and a header of a fourth OSI layer of each of said packets received. One would be motivated to have this, as it is desirable to improve transmission efficiency through packet compression techniques, including removing particular portions of the packet (In Birdwell: Col. 1 lines 32-43).

33. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,574,770 by Daudelin et al. (Daudelin) in view of U.S. Patent 5,793,976 by Chen et al. (Chen).

34. With respect to claim 16, Daudelin teaches all the limitations of claim 12, but does not explicitly disclose counting means for counting a simultaneous packet loss frequency per certain period and transmission means for transmitting information on said simultaneous packet loss frequency.

Qaddoura teaches counting means for counting a simultaneous packet loss frequency per certain period and transmission means for transmitting information on said simultaneous packet loss frequency (Col. 9 lines 15-57).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the system disclosed by Daudelin and modify it as indicated by Qaddoura such that it further comprises counting means for counting a simultaneous packet loss frequency per certain period and transmission means for transmitting information on said simultaneous packet loss frequency. One would be motivated to have this, as there is need for collecting information related to performance monitoring in network systems (In Chen: Col. 4 lines 20-39).

35. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,574,770 by Daudelin et al. (Daudelin) in view of U.S. patent 6,188,691 by Barkai et al. (Barkai).

36. With respect to claim 7, Daudelin teaches all the limitations of claim 12, but does not explicitly disclose said transmission means transmits said packet allocated said packet identification information, with a MAC (Media Access Control) address common to a plurality of reception devices set as a destination address.

Barkai teaches transmission of data through can be accomplished through the use of a MAC address common to a plurality of reception devices (In Barkai: Col. 4 lines 5-59, particularly lines 12-22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made, to take the system disclosed by Daudelin and modify it as indicated by Barkai such that said transmission means transmits said packet allocated said packet identification information, with a MAC (Media Access Control) address common to a plurality of reception devices set as a destination address. One would be motivated to have this, as it is desirable to be able to associate particular traffic with a common MAC address for network efficiency and easy administration (In Barkai: Col. 2 lines 4-34 and lines 62-67).

37. Claim 19 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,574,770 by Daudelin et al. (Daudelin) in view of U.S. Patent 6,646,987 by Qaddoura (Qaddoura).

38. With respect to claim 19, Daudelin teaches all the limitations of claim 12, and further teaches detection means for detecting whether said reception means have received the duplicate packets at least one or have not received the duplicate packets at all (Col. 2 lines 48 - Col. 3 line 4 and Col. 5 lines 30-37: receiver can determine duplicates based on packet identification information), and means for causing a plurality of higher level packets to be included in a packet to be transmitted (Col. 4 lines 1-8 and Col. 6 lines 1-17: packets contain higher level packets - higher link levels/layers).

Daudelin does not explicitly disclose the transmission being based on a frequency with which said reception means have not received the duplicate packets at all. Qaddoura teaches increasing the packet size based on the frequency of errors (i.e. - less errors mean less retransmissions and less duplicate packets) (Col. 7 lines 22-30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the system disclosed by Daudelin and modify it as indicated by Qaddoura such that it further comprises means for causing a plurality of higher level packets to be included in a packet to be transmitted based on the frequency with which said reception means have not received the duplicate packets at all. One would be motivated to have this, as it provides for a higher throughput (In Qaddoura: Col. 7 lines 29-30).

39. With respect to claim 23, Daudelin further teaches a wired LAN terminal (In Daudelin: Col. 3 lines 17-49)

40. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Daudelin in view of U.S. Patent 6,577,609 by Sharony (Sharony).

41. With respect to claim 10, Daudelin teaches at least all the limitations of claims 12 and 18, and further teaches that the invention can be practiced in commonplace networking environments such as LAN networks (Col. 3 lines 17-49).

Daudelin does not explicitly disclose the environment of a wireless LAN terminal. Sharony teaches that a common environment for data transmissions includes a wireless

LAN including a base station or access point (In Sharony: Abstract and Col. 1 lines 18-34 and Col. 7 lines 21-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the system disclosed by Daudelin and modify it as indicated by Sharony such that a wireless LAN terminal comprises the packet reception system. One would be motivated to have this, as the advantages of Daudelin's system (In Daudelin: Col. 2 lines 18-25) apply to common networking environments such as LAN environments (In Daudelin: Col. 3 lines 17-49) and would therefore extend to a wireless LAN terminal environment.

42. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Daudelin in view of Qaddoura as applied to claim 19 above, and further in view of Sharony.

43. With respect to claim 22, Daudelin in view of Qaddoura teaches all the limitations of claim 19, a and further teaches that the invention can be practiced in commonplace networking environments such as LAN networks (Col. 3 lines 17-49).

Daudelin in view of Qaddoura does not explicitly disclose the environment of a wireless LAN terminal. Sharony teaches that a common environment for data transmissions includes a wireless LAN including a base station or access point (In Sharony: Abstract and Col. 1 lines 18-34 and Col. 7 lines 21-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the system disclosed by Daudelin in view of Qaddoura and modify it as indicated by Sharony such that a wireless LAN terminal comprises the

packet transmission and reception system. One would be motivated to have this, as the advantages of Daudelin's system (In Daudelin: Col. 2 lines 18-25) apply to common networking environments such as LAN environments (In Daudelin: Col. 3 lines 17-49) and would therefore extend to a wireless LAN terminal environment.

Response to Arguments

44. Applicant's arguments filed 11/21/2007, with respect to claims 12-14 and 16-23 have been fully considered but they are not persuasive.

45. Applicant argues on pages 12-13 of the remarks - "*Thus, Daudelin fails to teach all the features of independent claim 12, specifically failing to teach a "packet reception system" that includes "reception means capable of receiving duplicate packets that are allocated packet identification information once or a plurality of times without a retransmission request" "wherein each of said duplicate packets includes a plurality of higher level packets." If this rejection is maintained, the Office is respectfully requested to point out where these features are found in Daudelin.*"

a. Examiner's response - In citing Daudelin at Col. 4, lines 1-8, and Col. 5 line 66 to Col. 6 line 17, the examiner was showing that the packets of Daudelin go through "intervening layers" and that packets may be handled differently depending on the embodiment (for example, at a particular protocol layer, a higher link level layer, or an application level). The exchange of packets between such layers is done through encapsulation, where lower level layers encapsulate the higher level layers. Through encapsulation, the packets contain a plurality of

higher level packets. Such an interpretation is consistent with applicant's specification (see page 13 for example).

Conclusion

46. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Lazaro whose telephone number is 571-272-3986. The examiner can normally be reached on 8:30-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on 571-272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


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David Lazaro
February 13, 2008



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SUPERVISORY PATENT EXAMINER